

**Amendments to the Claims:**

This listing of claims will replace all prior versions and listings of claims in the application:

**Listing of Claims:**

**Claim 1 (Currently Amended):** An ~~A-vehicle~~ occupant sensor apparatus for a vehicle, said apparatus comprising:

means for modulating a scanned occupant beam;

means for mapping occupant contours in response to the modulated beam, said means for mapping comprising a moveable reflective member, said movable reflective member being movable relative to the vehicle for directing the modulated beam across a scan area located at an occupant seating location of the vehicle; and

means for determining an occupant characteristic in response to the mapped contours.

**Claim 2 (Original):** An apparatus as set forth in claim 1, wherein said means for mapping comprises means for receiving beam reflection and means for determining phase difference of the beam.

**Claims 3-4 (Cancelled)**

**Claim 5 (Currently Amended):** An apparatus as set forth in claim ~~3~~ 1, wherein said ~~means for directing comprises a MEM device that has~~ movable reflective member is a reflective surface portion of a microelectric machine device.

**Claim 6 (Currently Amended):** An apparatus as set forth in claim 5, wherein said reflective surface portion is movable about two axes relative to a base portion of the microelectronic machine device in response to electrostatic force and said microelectronic machine ~~MEM~~ device comprises means for providing electrostatic force to move said reflective surface portion.

**Claim 7 (Currently Amended):** An apparatus as set forth in claim 1, wherein means for modulating comprises an electromagnetic energy emission source and a drive component that drives said source ~~at a modulation~~.

**Claim 8 (Original):** An apparatus as set forth in claim 7, wherein said electromagnetic energy emission source comprises an infrared LED.

**Claim 9 (Original):** An apparatus as set forth in claim 1, wherein said means for determining an occupant characteristic comprises means for determining occupant presence.

**Claim 10 (Original):** An apparatus as set forth in claim 1, wherein said means for determining an occupant characteristic comprises means for determining occupant location.

**Claim 11 (Original):** An apparatus as set forth in claim 1, wherein said means for determining an occupant characteristic comprises means for determining occupant type.

**Claim 12 (Original):** An apparatus as set forth in claim 1, further comprising means for providing an indication of the determined occupant characteristic to means for determining control of an occupant protection device.

**Claim 13 (Original):** An apparatus as set forth in claim 12, wherein the occupant protection device is an air bag module.

**Claim 14 (Original):** A vehicle occupant sensor apparatus comprising:

- beam means for emitting a beam;
- modulation means for modulating the beam;
- scan means for directing the beam toward the occupant in a pattern that moves across a plurality of points on the occupant;
- receiver means for receiving reflection of the beam from the occupant;
- phase determination means for determining phase difference between the emitted beam and the reflection associated with each point on the occupant;
- map means for mapping a contour and location representation of the occupant using the determined phase differences; and
- characteristic determination means for determining at least one occupant characteristic of the occupant using the contour and location representation of the occupant.

**Claim 15 (Original):** An apparatus as set forth in claim 14, wherein said beam means comprises an infrared LED.

**Claim 16 (Currently Amended):** An apparatus as set forth in claim 14, wherein said scan means comprises a MEM microelectronic machine device.

**Claim 17 (Currently Amended):** An apparatus as set forth in claim 14, wherein said MEM microelectronic machine device comprises a reflective surface component that is movable about two axes relative to a base portion of the microelectronic machine device.

**Claim 18 (Original):** An apparatus as set forth in claim 17, wherein the movement of said reflective surface component about a first of the two axes is an oscillation on the order of 3,000 Hz and the movement of said reflective surface component about a second of the two axes is an oscillation on the order of 30 Hz.

**Claim 19 (Original):** An apparatus as set forth in claim 14, wherein said modulation means comprising means for modulating the beam at a frequency on the order of 3 MHz.

**Claim 20 (Original):** An apparatus as set forth in claim 14, wherein said characteristic determination means comprises distance determination means for determining distance to each point on the occupant using determined phase difference.

**Claim 21 (Original):** An apparatus as set forth in claim 14, further comprising means for providing an indication of the determined occupant characteristic to means for determining control of an occupant protection device.

**Claim 22 (Currently Amended):** A method of ~~vehicle-occupant~~ sensing an occupant of a vehicle, said method comprising:

modulating a scanned occupant beam;

directing the scanned occupant beam across a scan area located at an occupant seating location of the vehicle by moving a movable reflective member relative to the vehicle;

mapping occupant contours in response to the modulated scanned occupant beam; and

determining an occupant characteristic in response to the mapped contours.

**Claim 23 (Original):** A method of vehicle occupant sensing comprising:

emitting a beam;

modulating the beam;

directing the beam toward the occupant in a pattern that moves across a plurality of points on the occupant;

receiving reflection of the beam from the occupant;

determining phase difference between the emitted beam and the reflection associated with each point on the occupant;

mapping a contour and location representation of the occupant using the determined phase differences; and

determining at least one occupant characteristic of the occupant using the contour and location representation of the occupant.